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PUBLIC HEALTH REPORTS

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HEALTH DEPARTMENT LABORATORIES.

THE NEED FOR THEIR CAREFUL SUPERVISION.

Recently in a city in New England an unusual number of cases of diphtheria were recorded.

Study of the cases showed that the diagnoses were based upon laboratory examinations. Further inquiry revealed that during the period of the unusual prevalence the examination of diphtheria cultures in the laboratory had been carried on by two different men, the usual bacteriologist and a temporary substitute who did the work part of the time. The findings of these men differed widely. The substitute bacteriologist did the work from May 27 to June 2, and of 46 specimens submitted for diagnosis he found 33 positive, 12 negative, and one liquefied.

From June 4 to June 16, inclusive, the regular bacteriologist was on duty, and of 51 specimens examined he found 8 positive and 43 negative.

From June 18 to July 7 the substitute was again on duty, and of 104 specimens examined he reported 77 positive and 27 negative.

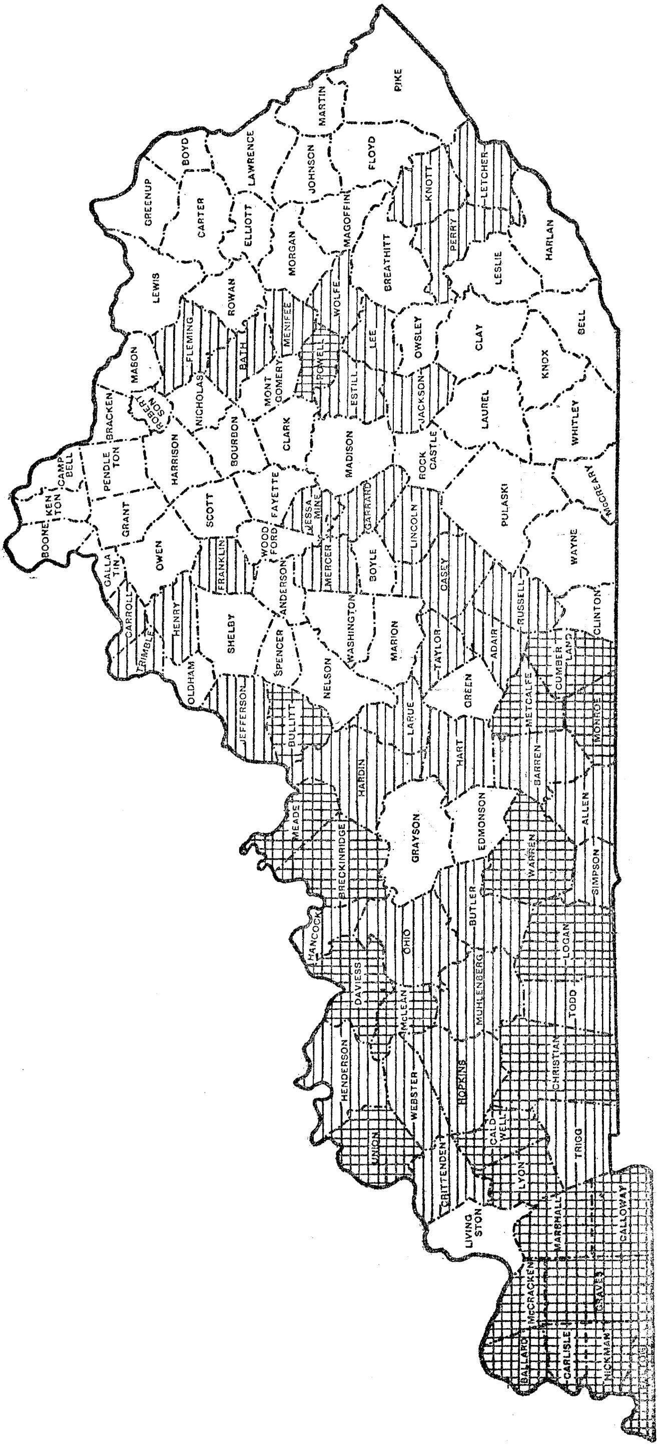
From July 8 to 10, inclusive, the regular bacteriologist was on duty, and of 18 specimens examined he found 2 positive and 16 negative.

The apparent prevalence of a considerable outbreak of diphtheria was evidently due to the inexperience and lack of training of the substitute. In this connection one is reminded of the bacteriologist of the health department of a large city who, instead of examining his diphtheria specimens, threw them into the waste basket and marked the reports negative, a practice that was without serious result until a diphtheria epidemic assumed unusual proportions and was discovered only by accident.

MALARIA IN KENTUCKY.

PREVALENCE AND GEOGRAPHIC DISTRIBUTION.

The periodical circularization of the physicians of Kentucky to determine the prevalence and geographic distribution of malarial infection in the State was begun July 1, 1914, and continued to the end of the calendar year 1916. At regular intervals reply postal cards were sent to the practicing physicians. These cards were at

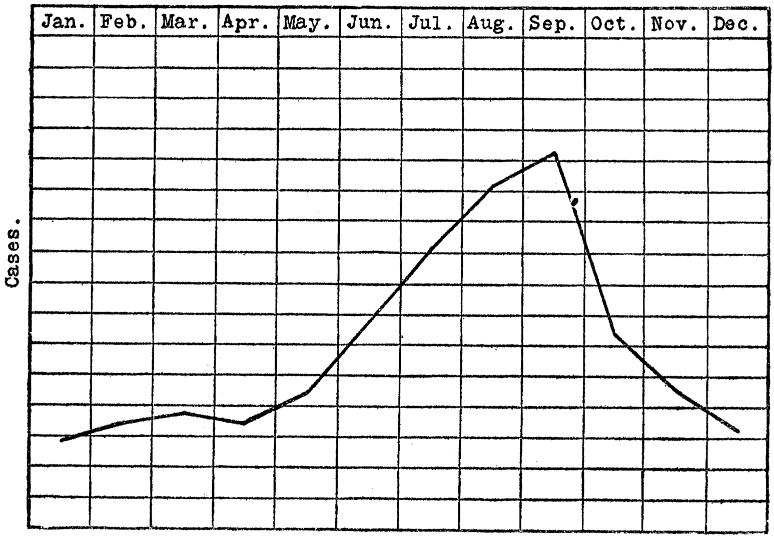


Relative prevalence of malaria in Kentucky, by counties in proportion to the population, as indicated by the numbers of cases reported.

first sent out each month. Beginning with April 1, 1915, they were sent out quarterly.[1] A reproduction of the card used during 1915 and 1916 will be found on page 1128 of the Public Health Reports of the issue of July 20, 1917.

Of the cards sent to physicians an average of less than 15 per cent were returned. Those returning the cards with the requested data filled in undoubtedly constituted the better class of practitioners—those who understood most clearly what was wanted and the value of the work. The number of cards sent out, the number of schedules returned, and the counties represented at each circularization are shown in Table 1.

It is to be borne in mind that the number of cases reported by the physicians by no means shows the number of cases that occurred, for an average of less than 15 per cent of the physicians returned the schedules.



Relative prevalence of malaria in Kentucky, by months, as indicated by the numbers of cases reported.

The return of the schedules by the physicians being a matter of voluntary cooperation, the data are undoubtedly reliable to an unusual degree as regards the experience of the physicians who cooperated and the number of cases seen by them. However, the cases reported represent only those occurring in the practices of the physicians who cooperated. The total number of cases of malaria occurring in the practices of all the physicians of the State must have been many times greater, also the number of cases that occurred in which no physician was in attendance or consulted was probably much greater than the number coming under medical care.

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[1] The work of circularization and of compilation of the data on the return cards was carried on by the late Surg. R. H. von Ezdorf up to the time of his death in September, 1916. Since then it has been carried on by Asst. Surg. R. C. Derivaux and Asst. Surg. Gen. H. R. Carter.

The physicians who cooperated were distributed as to locality throughout all sections of the State, so that the data of the occurrence of malaria furnished by them show the geographic distribution of the disease and reasonably accurately its relative prevalence in the various localities.

The cases reported throughout the State by months are shown in Table 2. The relative numbers of cases reported by months are shown in the chart.

The number of cases reported from the several counties of the State are given by race and year in Table 3.

The map on page 1216 shows the relative prevalence of the disease in the several counties of the State, the heavier shaded counties being those in which the infection is heaviest, the unshaded counties those in which the infection is lightest, as indicated by the numbers of cases reported. The relative density of infection was determined by ascertaining the number of cases reported in each county from July 1, 1914, to the end of the calendar year 1916 per 1,000 population. The population used was that of the 1910 census, it being impracticable to estimate populations for the period of the circularization.

The types of malarial infection reported to have been diagnosed microscopically are shown in Table 4. It will be noted that tertian infection was reported to have been so diagnosed in 42 counties, quartan in 13 counties, and estivo-autumnal in 15 counties.

TABLE 1.—*Results of circularization of practicing physicians.*

Period.	Inquiry cards sent to physicians.	Replies received.	Percentage of replies.	Counties represented in replies.	Counties not heard from.	Cases of malaria reported.
1914.						
July to December	20,990	3,334	15.88	....	....	6,648
1915.						
January to March	10,500	1,798	17.12	120	0	860
April to June	3,500	464	13.26	110	10	894
July to September	3,500	540	15.43	110	10	2,751
October to December	3,500	630	18.00	113	7	1,560
1916.						
January to March	3,500	415	11.85	94	26	642
April to June	3,500	456	13.02	100	20	1,331
July to September	3,500	375	10.71	98	22	2,123
October to December	3,500	273	7.80	78	42	564

TABLE 2.—*Cases of malaria reported, by months.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1914	....	....	....	....	....	....	1,552	1,071	955	837	1,909	324
1915	263	334	263	219	272	403	742	907	1,102	744	501	315
1916	162	183	297	314	396	621	632	756	735	220	187	157

TABLE 3.—*Cases reported, by counties, by years, and by color.*

County.	July 1 to Dec. 31, 1914.			Calendar year 1915.			Calendar year 1916.		
	White.	Colored.	Combined.	White.	Colored.	Combined.	White.	Colored.	Combined.
Adair	33	1	34	41		41			
Allen	23	1	24	60		60	12	1	13
Anderson	2		2	8		8			
Ballard	79	17	96	253	85	338	242	41	283
Barren	64	9	73	56	7	63	43	9	52
Bath	18	1	19	22	5	27	24	14	38
Bell	2		2	1		1			
Boone									
Bourbon	9	6	15	3		3	1		1
Boyd	3		3	3		3	2		2
Boyle	11		11	16	4	20	4		4
Bracken	8		8						
Breathitt	22	5	27	4		4	1		1
Breckinridge	141	11	152	89	19	108	34	15	49
Bullitt	65	7	72	153	5	158	2	1	3
Butler	101	11	112	24		24			
Caldwell	165	41	206	54	26	80	94	26	120
Calloway	139	13	152	131	12	143	132		132
Campbell	5		5	10		10	3		3
Carlisle	110	16	126	186	38	224	112	5	117
Carroll	27		27	6	1	7	8		8
Carter	11		11	6		6	8		8
Casey	3		3	33		33	9		9
Christian	923	525	1,448	93	69	162	28	48	76
Clark	6	2	8	6		6	1		1
Clay	5		5	18		18	4		4
Clinton									
Crittenden	8	1	9	15		15	24	4	28
Cumberland	35	1	36	44	18	62	40	10	50
Daviess	162	18	180	418	107	525	418	141	559
Edmonson				7	3	10			
Elliott				2		2			
Estill	7	1	8	7	1	8	13	5	18
Fayette	6		6	11		11	6		6
Fleming	17	2	19	38	3	41	32	3	35
Floyd	4		4	8		8	1	1	2
Franklin	14		14	32		32	35		35
Fulton	213	41	254	177	58	235	226	79	305
Gallatin	10		10					1	1
Garrard	16	3	19	26	2	28			
Grant	12	3	15						
Graves	165	39	204	214	28	242	270	14	284
Grayson	4		4	20	2	22	21		21
Green	3		3	1		1			
Greenup	15		15	14		14	1		1
Hancock	35	1	36						
Hardin	66	5	71	108	6	114	66	1	67
Harlan	7		7	10	3	13	2		2
Harrison	15		15	4	3	7	4	1	5
Hart	41	4	45	83	23	106			
Henderson	101	36	137	96	15	111	96	18	114
Henry	27	8	35	16	8	24	1		1
Hickman	85	17	102	82	7	89	17	6	23
Hopkins	59	12	71	100	73	173	45	22	67
Jackson	18		18	22		22	30		30
Jefferson	403	84	487	549	40	589	213	34	247
Jessamine	13		13	45	7	52	32	3	35
Johnson				9		9	1		1
Kenton	7		7	12	1	13	3	1	4
Knott	3		3	62	17	79	7	1	8
Knox	9		9	8		8	8		8
Larue	12		12	63		63	4		4
Laurel	7		7	8		8	4		4
Lawrence	2		2	3		3	1	1	2
Lee	57	19	76	4	3	7	4		4
Leslie				4	1	5			
Letcher	4		4	3		3	40	20	60
Lewis	1		1	17	3	20	8		8
Lincoln	32	12	44	25	4	29	23	1	24
Livingston	2		2	6		6	3	1	4
Logan	124	34	158	158	28	186	130	35	165
Lyon	51	21	72	10	10	20	46	33	79
McCracken	181	28	209	125	3	128	211	12	223
McCreary	5		5	8		8	1		1
McLean	82	17	99	39	23	62	11	2	13
Madison	14		14	9		9	6		6
Magoffin	4		4	12		12	2		2
Marion	24	6	30	8	1	9	1		1

TABLE 3.—*Cases reported, by counties, by years, and by color*—Continued.

County.	July 1 to Dec. 31, 1914.			Calendar year 1915.			Calendar year 1916.		
	White.	Colored.	Combined.	White.	Colored.	Combined.	White.	Colored.	Combined.
Marshall	238	37	275	218	2	220	257	....	257
Martin	....	....	....	....	....	....	....	....	....
Mason	4	1	5	4	....	4	8	2	10
Meade	57	6	63	22	7	29	34	8	42
Menifee	24	2	26	....	....	....	10	....	10
Mercer	28	2	30	25	1	26	8	....	8
Metcalfe	40	4	44	40	8	48	53	7	60
Monroe	23	4	27	70	16	86	69	14	83
Montgomery	4	2	6	4	1	5	....	....	....
Morgan	4	....	4	2	....	2	3	....	3
Muhlenberg	183	4	187	86	13	99	30	4	34
Nelson	4	4	8	....	....	....	2	1	3
Nicholas	2	....	2	6	....	6	....	....	....
Ohio	54	7	61	126	14	140	65	13	78
Oldham	2	....	2	3	2	5	1	2	3
Owen	2	....	2	1	....	1	....	....	....
Owsley	....	2	2	1	....	1	3	....	3
Pendleton	2	....	2	3	1	4	....	....	....
Perry	11	1	12	13	18	31	6	....	6
Pike	12	1	13	12	....	12	15	6	21
Powell	6	....	6	5	....	5	99	28	127
Pulaski	18	5	23	....	....	....	11	....	11
Robertson	5	1	6	....	....	....	....	....	....
Rockcastle	2	....	2	1	....	1	8	....	8
Rowan	3	....	3	....	....	....	....	....	....
Russell	40	....	40	10	....	10	24	....	24
Scott	6	2	8	11	5	16	10	1	11
Shelby	13	5	18	9	....	9	....	....	....
Simpson	17	3	20	47	14	61	39	....	39
Spencer	....	....	....	2	....	2	7	....	7
Taylor	14	10	24	7	....	7	11	1	12
Todd	21	14	35	6	1	7	....	22	22
Trigg	17	3	20	15	....	15	18	....	18
Trimble	55	....	55	1	....	1	....	....	....
Union	103	60	163	68	7	75	5	7	12
Warren	67	9	76	203	49	252	134	42	176
Washington	6	....	6	....	....	....	5	....	5
Wayne	6	2	8	1	....	1	1	....	1
Webster	84	17	101	51	20	71	21	19	40
Whitley	2	....	2	9	....	9	29	2	31
Wolfe	13	....	13	8	4	12	11	2	13
Woodford	12	....	12	2	....	2	1	....	1
Total	5,361	1,287	6,648	5,110	955	6,065	3,869	791	4,660

TABLE 4.—*Types of infection reported diagnosed microscopically, by counties.*

[The figures indicate the numbers of cases reported diagnosed microscopically. The sign + indicates that cases were reported, but the diagnosis was not confirmed by the microscope. This information was collected for three months only.]

County.	July-September, 1914.		
	Tertian.	Quartan.	Estivo-autumnal.
Adair	+	+	+
Allen	+	+	+
Ballard	+	+	+
Barren	3	+	+
Bath	+	1	+
Bell	+		
Bourbon	+		+
Boyd	+		
Boyle	+		
Bracken	+		
Breathitt	+	+	+
Breckinridge	8	+	+
Bullitt	5		+
Butler	+	+	+
Caldwell	24	+	+
Calloway	10	3	13
Campbell	+	1	
Carlisle	+	+	+
Carroll	7	5	+
Carter	+	+	3
Christian	1	+	6
Clark	+	+	
Clay	+		1
Clinton	+		
Crittenden	+		+
Cumberland	+	+	+
Daviess	6	1	+
Estill	+		
Fayette	2		
Fleming	4	2	1
Floyd	1		
Franklin	+		
Fulton	+		
Gallatin	+		+
Garrard	+		
Grant	+	+	+
Graves	4	14	6
Grayson	+	2	
Green	1		+
Greenup	5		1
Hancock	+	+	
Hardin	6		+
Harrison	+		
Hart	+	+	+
Henderson	8	+	+
Henry	4		+
Hickman	1		+
Hopkins	1	+	
Jackson	1	+	2
Jefferson	48	13	26
Jessamine	+	1	+
Kenton	1		+
Knott	1		
Knox	+		
Larue	1		9
Laurel	2		
Lawrence	+	+	
Lee	2		+
Lewis	+	+	+
Lincoln	6		+
Logan	4	+	3
Lyon	1	1	+
McCracken	20	1	1
McCreary	+		
McLean	+	+	+
Madison	+	+	
Magoffin	+		
Marion	+	+	
Marshall	+	+	+
Mason	3		
Meade	+	+	+
Menifee	+	+	+
Mercer	2	+	+
Metcalfe	+	+	1
Monroe	+		+
Montgomery	2		
Morgan	+		
Muhlenberg	15	5	12
Ohio	+	+	+
Oldham	+		
Owen	+		
Owsley			+
Pendleton	2	+	+
Perry	+	+	+
Pike	5		
Powell	+		
Pulaski	1		
Robertson	+	+	
Rowan	+		
Russell	2		
Scott	+		
Shelby	+		
Simpson	1		
Taylor	+		
Todd	+	+	+
Trigg	+	+	
Trimble	+	+	+
Union	20	+	+
Warren	3	+	2
Washington	+		
Wayne	+		
Webster	+	+	+
Whitley			+
Wolfe	2	+	
Total	246	50	87

DIRECTORY OF CITY HEALTH OFFICERS.

CONTAINING THE NAMES AND OFFICIAL TITLES OF THE HEALTH OFFICERS OF CITIES HAVING A POPULATION OF 10,000 AND OVER IN 1910.

During 1916 a directory of city health officers was compiled and published in the Public Health Reports of June 30, 1916, and as reprint No. 346.

The following is the directory for 1917, and was obtained by sending blank forms requesting information to the health officers of